

WHAT IS CLAIMED IS:

1. A chamber, comprising:
  - a chamber upper wall and a chamber lower wall, each wall having an inner surface and an outer surface and defining an interior space therebetween;
  - a plurality of forward ribs provided on the outer surface of at least one of the chamber upper wall and chamber lower wall in a forward portion of the chamber, said forward portion being defined as forward of a central axis of said chamber; and
  - a plurality of rearward ribs provided on the outer surface of at least one of the chamber upper wall and chamber lower wall in a rearward portion of the chamber, said rearward portion being defined as rearward of the central axis of the chamber;wherein at least some of the forward ribs are positioned to have mirrored projections in the rearward portion of the chamber falling substantially between adjacent rearward ribs, and at least some of the rearward ribs are positioned to have mirrored projections in the forward portion of the chamber falling substantially between adjacent forward ribs.
2. The chamber of Claim 1, wherein the number of said ribs provided on the outer surface of the chamber upper wall is equal to the number of said ribs provided on the outer surface of the chamber lower wall.
3. The chamber of Claim 2, wherein each of said ribs on the chamber upper wall is aligned with one of said ribs on the chamber lower wall.
4. The chamber of Claim 1, further comprising an inlet flange secured at a forward end of said chamber to said chamber upper wall and said chamber lower wall.
5. The chamber of Claim 1, further comprising an outlet flange secured at a rearward end of said chamber to said chamber upper wall and said chamber lower wall.
6. The chamber of Claim 1, wherein a majority of the forward ribs are positioned to have mirrored projections in the rearward portion of the chamber falling substantially between adjacent rearward ribs, and a majority of the rearward ribs are positioned to have mirrored projections in the forward portion of the chamber falling substantially between adjacent forward ribs.

7. The chamber of Claim 1, wherein each of said mirrored projections of the forward and rearward ribs is approximately equidistant from adjacent shadows.

8. The chamber of Claim 7, wherein approximately equidistant comprises a mirrored projection being no more than about 15% of the distance between two opposing ribs from the midpoint between the two opposing ribs.

9. The reaction chamber of Claim 7, wherein approximately equidistant comprises a mirrored projection being no more than about 10% of the distance between two opposing ribs from the midpoint between the two opposing ribs.

10. The reaction chamber of Claim 7, wherein approximately equidistant comprises a mirrored projection being no more than about 5% of the distance between two opposing ribs from the midpoint between the two opposing ribs.

11. A reaction chamber, comprising:

- a chamber upper wall and a chamber lower wall, each wall having an inner surface and an outer surface and defining a reaction space therebetween;

- an inlet flange secured at a forward end of said chamber to said upper and lower walls;

- an outlet flange secured at a rearward end of said chamber to said upper and lower walls;

- a substrate support provided within the reaction space, the substrate support having a central axis around which the substrate support rotates;

- a heat source provided above the chamber;

- a heat source provided below the chamber;

- a plurality of forward ribs provided on the outer surface of the chamber upper wall and chamber lower wall, said forward ribs being located between the central axis of the substrate support and the inlet flange, wherein said forward ribs form a shadow onto the substrate support in a forward portion of the reaction space; and

- a plurality of rearward ribs provided on the outer surface of the chamber upper wall and chamber lower wall, said rearward ribs being located between the central axis of the substrate support and the outlet flange, wherein said rearward ribs form a shadow onto the substrate support in a rearward portion of the reaction space;

wherein a majority of the shadows formed by the forward ribs have a mirrored projection in the rearward portion of the reaction space that falls substantially between shadows of the rearward ribs, and a majority of the shadows formed by the rearward ribs have a mirrored projection in the forward portion of the reaction space that falls substantially between shadows of the forward ribs..

12. The reaction chamber of Claim 11, wherein the number of said ribs provided on the outer surface of the chamber upper wall is equal to the number of said ribs provided on the outer surface of the chamber lower wall.

13. The reaction chamber of Claim 12, wherein each of said ribs on the chamber upper wall is aligned with one of said ribs on the chamber lower wall.

14. The reaction chamber of Claim 11, wherein said majority of the shadows of said forward and rearward ribs comprises all but the closest of said ribs to said central axis.

15. The reaction chamber of Claim 11, wherein each of said mirrored projections overlaps both of the adjacent shadows of opposing ribs.

16. The reaction chamber of Claim 11, wherein each of said mirrored projections is approximately equidistant from adjacent shadows.

17. The reaction chamber of Claim 16, wherein approximately equidistant comprises a mirrored projection being no more than about 15% of the distance between two opposing ribs from the midpoint between the two opposing ribs.

18. The reaction chamber of Claim 16, wherein approximately equidistant comprises a mirrored projection being no more than about 10% of the distance between two opposing ribs from the midpoint between the two opposing ribs.

19. The reaction chamber of Claim 16, wherein approximately equidistant comprises a mirrored projection being no more than about 5% of the distance between two opposing ribs from the midpoint between the two opposing ribs.

20. A reaction chamber, comprising:

a chamber upper wall and a chamber lower wall, each wall having an inner surface and an outer surface and defining a reaction space therebetween;

a substrate support provided within said reaction space, said substrate support having a central axis around which said substrate support rotates;

a plurality of forward ribs provided on the outer surface of at least one of the chamber upper wall and chamber lower wall that project a shadow in a forward portion of the reaction space; and

a plurality of rearward ribs provided on the outer surface of at least one of the chamber upper wall and chamber lower wall that project a shadow in a rearward portion of the reaction space;

wherein at least some of the shadows of the forward ribs have a mirrored projection in the rearward portion of the reaction space that are approximately equidistant from adjacent rearward ribs, and at least some of the shadows of the rearward ribs have a mirrored projection in the forward portion of the reaction space that are approximately equidistant from the adjacent forward ribs.

21. The reaction chamber of Claim 20, further comprising an inlet flange secured at a forward end of said chamber to said chamber upper wall and said chamber lower wall, an outlet flange secured at a rearward end of said chamber to said chamber upper wall and said chamber lower wall, a heat source provided above said chamber, and a heat source provided below said chamber.

22. The reaction chamber of Claim 20, wherein said plurality of forward ribs is provided on said chamber upper wall and said chamber lower wall, and said plurality of rearward ribs is provided on said chamber upper wall and said chamber lower wall.

23. The reaction chamber of Claim 20, wherein approximately equidistant comprises a mirrored projection being no more than about 15% of the distance between two opposing ribs from the midpoint between the two opposing ribs.

24. The reaction chamber of Claim 20, wherein approximately equidistant comprises a mirrored projection being no more than about 10% of the distance between two opposing ribs from the midpoint between the two opposing ribs.

25. The reaction chamber of Claim 20, wherein approximately equidistant comprises a mirrored projection being no more than about 5% of the distance between two opposing ribs from the midpoint between the two opposing ribs.

26. The reaction chamber of Claim 20, wherein the number of said ribs provided on the outer surface of the chamber upper wall is equal to the number of said ribs provided on the outer surface of the chamber lower wall.

27. The reaction chamber of Claim 26, wherein each of said ribs on the chamber upper wall is aligned with one of said ribs on the chamber lower wall.